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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,340	10/06/2002	Stephen Waller Melvin		2218
30968	7590	02/09/2005	EXAMINER	
STEPHEN W. MELVIN 967 14TH STREET SAN FRANCISCO, CA 94114-1220				ELMORE, STEPHEN C
		ART UNIT		PAPER NUMBER
				2186

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/065,340	MELVIN, STEPHEN WALLER	
	<b>Examiner</b> Stephen Elmore	<b>Art Unit</b> 2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 06 October 2002.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-5 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-5 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on October 6, 2002 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/3/2003</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

1. This Office action responds to the application filed October 6, 2002.
2. Claims 1-5 are presented for examination.

### *Priority*

3. Acknowledgment is made of applicant's claim for priority based on the following provisional applications with the priority status of these applications being determined as:

<u>Application</u>	<u>File Date</u>	<u>Priority Status</u>
60/347,781	10/23/2001	"not approved"
60/339,077	10/30/2001	"approved"
60/348,217	11/09/2001	"approved"
60/332,425	11/16/2001	"approved"

Provisional application 60/347,781 cannot be relied upon for the requested priority because this application shows **abandoned** in PALM as of 3/11/2003 due to failure to complete the application. Applicant is entitled to an earliest priority date of 10/30/2001 based on the above provisional applications.

### *Information Disclosure Statement*

4. The information disclosure statement filed January 3, 2003 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

### ***Specification***

5. The disclosure is objected to because:

a. the title is objected to because it is not understood how the terminology "virtual sequentiality" relates to the claimed subject matter. This term is unclear because: 1) it is not defined in the specification, 2) it is not explained in either the specification or the claims, and/or 3) it is not a term in the computer processing art. Therefore, it is unclear what the term suggests about the scope and meaning of the claimed invention. The title should reflect the invention to which the claims are directed. See MPEP 606.01, "*Where the title is not descriptive of the invention claimed, the examiner should require the substitution of a new title that is clearly indicative of the invention to which the claims are directed.*"

Since this terminology appears in the original disclosure, Applicant is requested to provide an explicit definition for "virtual sequentiality" in an amendment to the specification to overcome this objection.

b. the Abstract is objected to because it uses the terminology "detection of ordering conflicts", this is unclear because the "conflict" term usage in the disclosure is described elsewhere explicitly in terms of the detection of a memory conflict, not an ordering conflict, see e.g., paras [0028] and [0029] and Figure 5, "Time Sequence" description, which describe a search in the Write Table and a search in the Read Table for matching (that is, conflicting) memory addresses, since the disclosure does not elsewhere explain the meaning intended for the terminology "ordering conflicts", such as what element is ordered and how the element is in conflict -- its use in the Abstract alone makes unclear what this terminology's scope of meaning covers;

Since this terminology appears in the original disclosure, Applicant is requested to provide an explicit definition for "ordering conflicts" in an amendment to the specification to overcome this objection.

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- c. page 3, para [0008], the last sentence is an incomplete sentence -- "and distributes the load across multiple (multiple what?)";
- d. page 6, para [0025], first sentence, it is not clear why the Write Table records all writes...for forwarded *reads* -- what does forwarded reads have to do with recorded writes?  
Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-5 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for, in Claim 1, the scope of

*signaling a restart of a particular sequence number when a memory conflict is detected in combination with a determination result related to specific compared sequence numbers pertaining to certain memory read or write conflicts*

does not reasonably provide enablement for the scope of,

*signaling a restart of a particular sequence number when a memory conflict is detected (that is, without regard to any other considerations).*

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and or use the invention commensurate in scope with presently claimed claim 1.

The rationale for this interpretation is as follows --

- a. **As to Claim 1,**

First, the term "memory conflict" is not explicitly defined in either the specification or the claim, therefore, the scope given to this term is the broadest reasonable interpretation one of ordinary skill would give the term consistent with the term's use in the specification, therefore,

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the term "memory conflict" is interpreted to cover the scope of a "memory conflict" being detected for: the memory address of a pending write matching a memory address of a pending read, or the memory address of a pending read matching a memory address of a pending write.

Second, therefore, the scope of coverage of the subject matter of Claim 1 exceeds the scope of coverage for which Applicant has provided an enabling disclosure under 35 USC 112, first paragraph, because Applicant has not enabled the scope of signaling a restart for any instance where a memory match conflict is detected (a relatively large scope), but has only enabled the scope of signaling a restart for only *certain times* when a memory match conflict is detected (a smaller scope), because as the disclosure teaches, there exists some instances where a memory match conflict has been detected, but due to additional considerations the restarting activity is not "signaled" because the restart of the instant invention it is not only dependent on the detection of a memory match conflict, but as the disclosure teaches is also dependent on determinations that have to do with comparisons of pending read and write sequence numbers, so that, for the detection of some memory match conflicts, a restart is not signaled because the sequence number comparison criteria has not been met, and so, because the set of all instances of signaling a restart when a memory match conflict has been detected is larger than the set of signaling a restart only when certain instances of a memory match conflict has been detected, the larger scope for which Applicant seeks protection exceeds the smaller scope of what Applicant has disclosed the invention to be;

b. **Claims 2-5** inherit the deficiencies of the previous claim in the claim dependency chain.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are indefinite because:

a. Claim 1, the language "*signaling a restart of a particular sequence numbers*" (*emphasis added*) is unclear as to what scope of entity is being restarted, "*a particular*" suggests the meaning of one entity, which could be a single sequence number, but "*sequence numbers*" suggests more than one entity, such as two or more sequence numbers, however, it is unknown whether Applicant intended this language to cover the restart of a particular sequence number or whether it should cover the restart of a particular group of sequence numbers, therefore, this language suggests two contradictory scopes of meaning;

Note: for purposes of claim interpretation elsewhere in the Office action this claim language will be interpreted as if it covered "the restart of a particular sequence number".

b. Claim 1, due to the use of the "associated" terminology, it is not clear what is the intended scope of the association, that is, whether the language,

*processing memory reads having an associated sequence number*  
has the meaning of "processing a group of memory reads the group having an associated sequence number" or means "processing memory reads each read having an associated sequence number";

and, whether the language,

*processing memory writes having an associated sequence number*  
has the meaning of "processing a group of memory writes the group having an associated sequence number" or means "processing memory writes each write having an associated sequence number";

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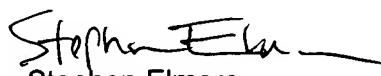
- c. Claim 2, "*the received read*" lacks proper antecedent basis, there being no previous explicit mention of there having been any received read;
- d. Claim 3, "*the received memory write*" lacks proper antecedent basis, there being no previous explicit mention of there having been any received write;
- e. Claims 4 and 5 inherit the deficiencies of the previous claim in the claim dependency chain.

#### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Elmore whose telephone number is (571) 272-4436. The examiner can normally be reached on Mon-Fri from 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stephen Elmore  
Primary Examiner  
Art Unit 2186

February 3, 2005